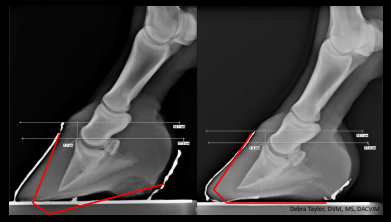
Reversing Hoof Capsule Rotation and Distal Descent (Sinking)
PHCP 2022

Reversing "Sinkers" and Hoof Capsule Rotation



PHCP 2022 Pete Ramey

1

Clinical Outcome of 14 Obese, Laminitic Horses Managed with the Same Rehabilitation Protocol

(Journal of Equine Veterinary Science - Volume 34, Issue 4, April 2014, Pages 556-564)

Rotation reversed in all (some completely, some partially).

Comfort restored to all. Comfort, correct movement, and exercise are critical to success with improving both rotation and sinking – mechanically, and for processing carbs and breaking acute laminitis cycles. *"Exercise is the best insulin buster"—Dr. K!*

CE improved significantly in several individual cases, though as a whole averaged together, the entire study group "only" improved by about 1mm.

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Clinical Outcome of 14 Obese, Laminitic Horses Managed with the Same Rehabilitation Protocol

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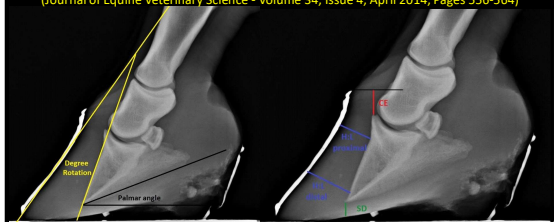

Google "14 Laminitic Horses" – Click "Science Direct" Debra Taylor, DVM, MS, DACVIM

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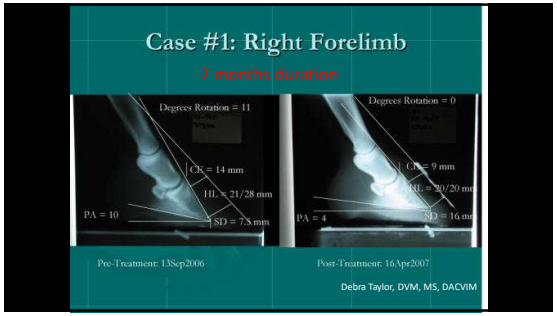

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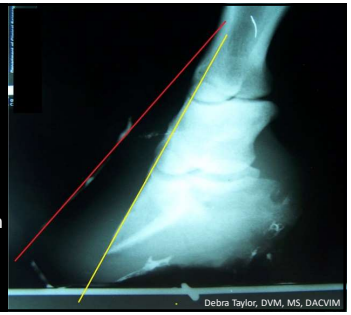
Lamellar separation, lamellar wedge, and sinking can occur anywhere – toes, quarters, heels…

I find that there is no better or worse place for lamellar separation to occur. It's all very serious.



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Farrier/Veterinarian Teamwork is Critical

Radiographs – Management of inflammation and pain

Diagnosis – just to give you a toehold with owner compliance to nutritional changes and adequate trim/shoe cycles.

If EMS, IR or PPID diagnosis, then every bite should have less than 10% sugar + starch combined.

Diagnosis and treatment – PPID, IR, GI ulcers, really ***ANY*** ailment can/does contribute to weakness of the lamellar connection.

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Mineral Balancing per NRC Guidelines

Custom per forage analysis – *best*
Balancing to regional averages – *way better than guessing*
Buckshot Method – California Trace Plus (or similar) – *often effective*

Plain white loose salt – *always*

Vitamins E, A, limiting amino acids – *especially with hay vs. grass diets*
Prebiotics and Probiotics – *often magical stalemate breakers*

Details in "Feeding the Hoof" article at Hoofrehab.com

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Mechanically Speaking…

In a nutshell, to grow out hoof capsule rotation and reverse distal descent/sinking:

1) Unload the walls
2) Protect the solar corium.
3) Establish heel height by prioritizing flat and heel-first impacts.

Easy? But… (Lotsa Buts…)

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1) Unload the walls.

This removes the shear forces from the laminae, then allows the coronet to relax distally toward a more normal position relative to P3. This also allows better connected wall/laminae growth from the coronet, down – thus growing out hoof capsule rotation.

Perfect, right?
(except that you just overloaded the solar corium)

Dang.

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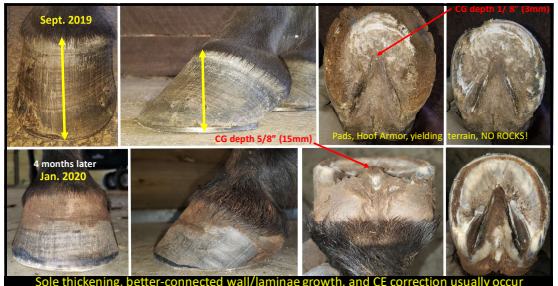

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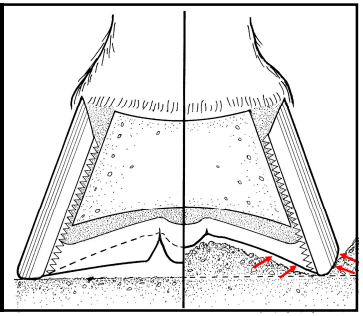
On soft or rocky terrain that the foot can sink into, the bevel of the outer wall does not "unload" the wall. Instead, the wall is carrying plenty of load, but the force is diverted into a compressional force on the laminae, rather than a separational force.

On hard, flat terrain, though, the wall needs to be trimmed flatter, with a soft roll on the outer edge.

In both terrains, the goals are load-sharing between the wall and sole, and expansion room.



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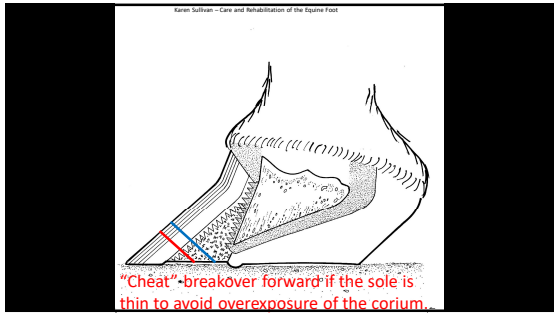

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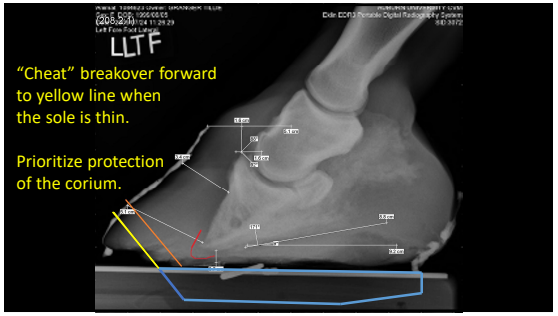

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2) Protect the solar corium.

Sole must be either *thick* or protected.

For CE correction and the reversal of hoof capsule rotation, sole loading is essential, but ALL sole pressure must be released whenever the foot is in flight or otherwise unloaded!

"Protection" can include barefoot on soft terrain (depending on the current sole thickness), boots with padded insoles, tape-on pads and/or VERY thoughtful shoeing packages with tight trim/shoe cycles (ideally 4 weeks).

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Easyboot Glove With Soft Gaiter

Mods:

Toe Slot
Heat Fitted
Breakover Mod
6mm padded insole

Power Strap
(not shown)

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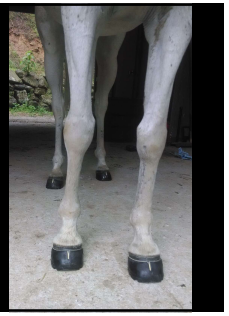
Easyboot Glove Glue-on Shells

Application and modification details at HoofRehab.com

Click "Articles"

Click "Modifications of Easyboot Gloves and Glove Glue-On Shells"



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3) Establish heel height by prioritizing flat and heel-first impacts.

Toe-first compensation is the #1 enemy. There is basically no way to reverse hoof capsule rotation or improve CE on a horse that primarily loads toe-first.

Compensation by side-loading the foot is the #2 enemy.

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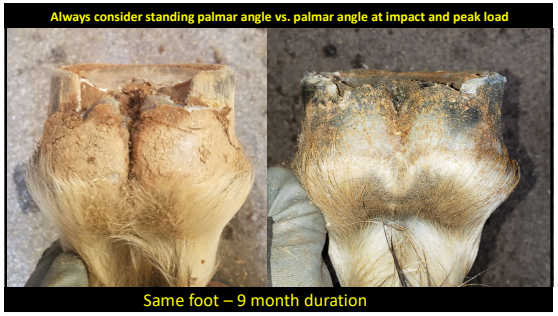

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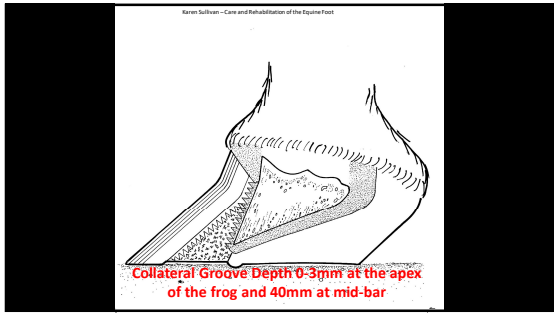

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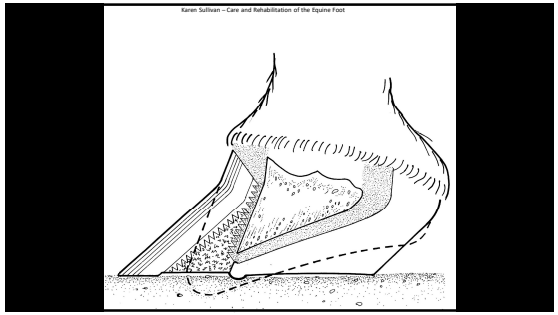

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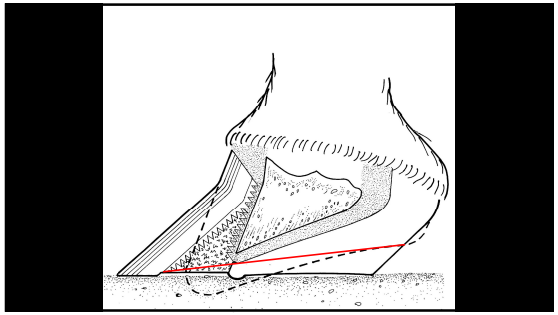

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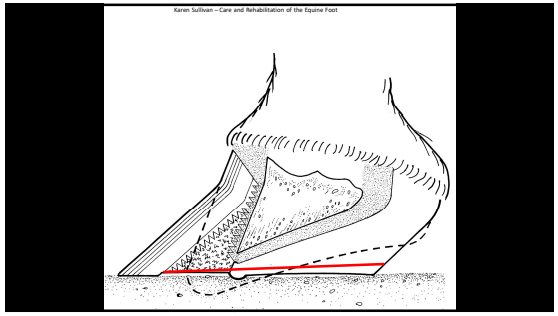

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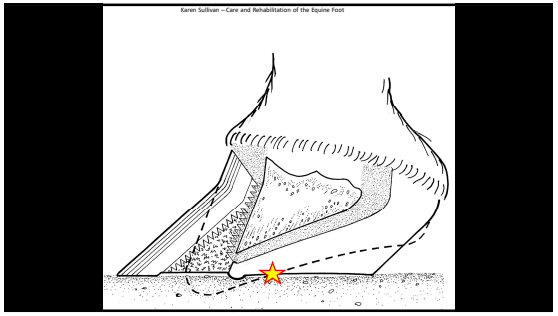

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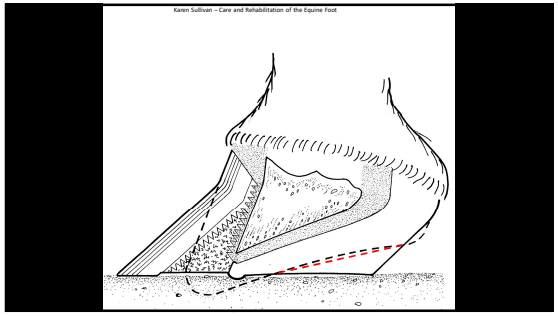

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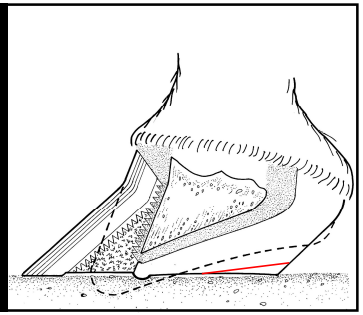
The dashed line may be the ideal target to keep in mind, but often the red line is all you can do **today** without causing toe-first compensation or damage to ligaments, tendons, joints, etc.



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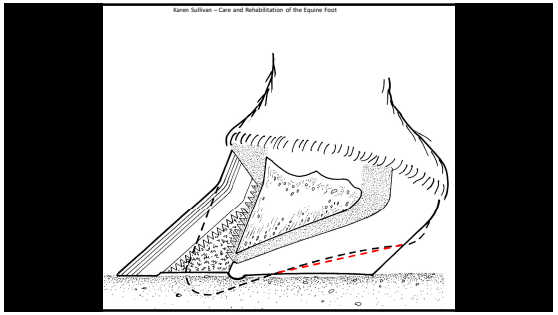

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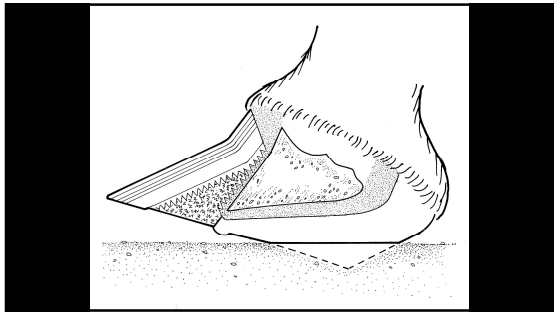

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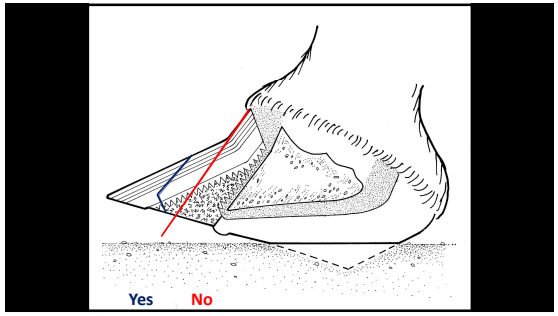

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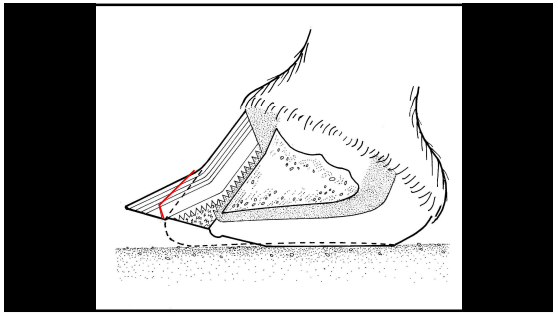

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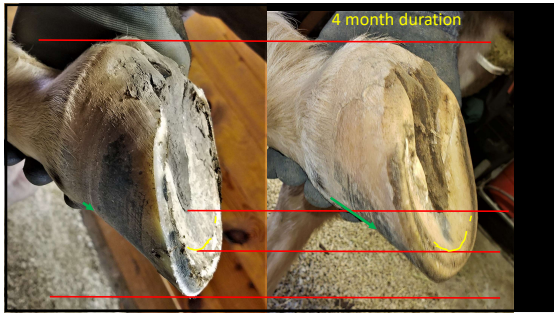

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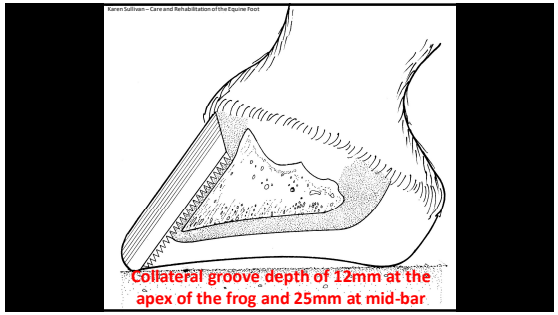

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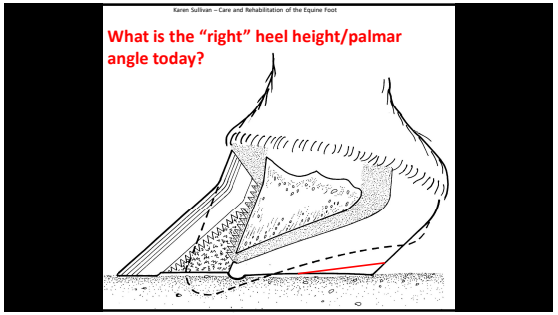

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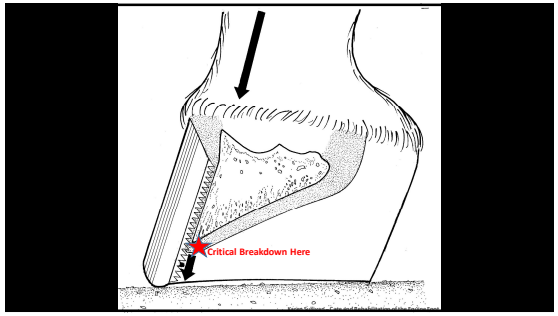

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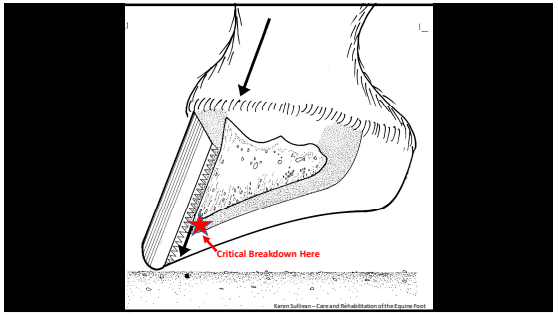

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Prioritize comfort! Prioritize correct footfalls!
This is way more than being nice…

1) Exercise and voluntary movement during turnout are critical to processing carbs and thus breaking acute laminitis cycles. ***Insulin Buster***!

– BUT –

2) Compensative movement wrecks everything!

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With the primary goals of comfort and flat impacts (at walk) and flat or heel-first impacts (at faster gaits), I establish heel height/palmar angle based on:

1) Minimum 1/2"-5/8" (12-15mm) sole thickness – *sole as a guide*?
2) Stance
3) Movement
4) Response to ***offer of*** forward stretch – *are the flexor muscles tight or relaxed? Do joint problems or other issues restrict extension or flexion? A higher heel may temporarily or permanently best support such issues.*
5) Subjective evaluation of frog health and digital cushion integrity – *How much frog pressure will the horse voluntarily bear without starting to compensate toe-first?*
6) Wear pattern
7) Learning from previous *mistakes* with the individual foot/horse

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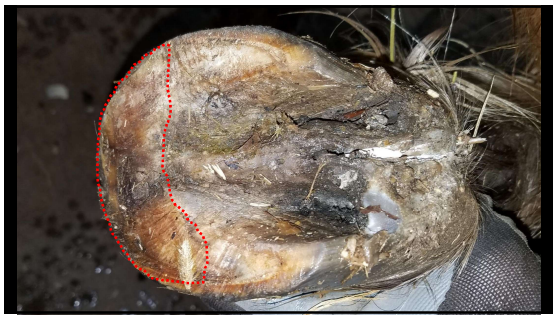

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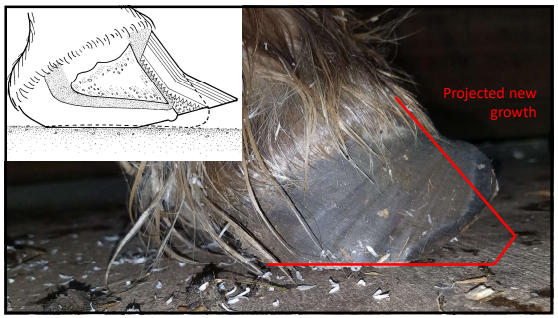

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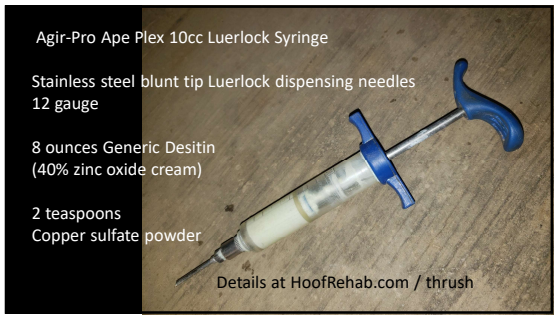

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I establish heel height/palmar angle based on:

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2) Stance
3) Movement
4) Response to ***offer of*** forward stretch
5) Subjective evaluation of frog health and digital cushion integrity
6) Wear pattern
7) Learning from previous *mistakes* with the individual foot/horse

8) Don't forget #7 !!! The "right" heel height is a moving target.
Pay attention to post-trim movement and pre-trim wear patterns.
Interview the owner/rider. Don't fall into ***HABIT***

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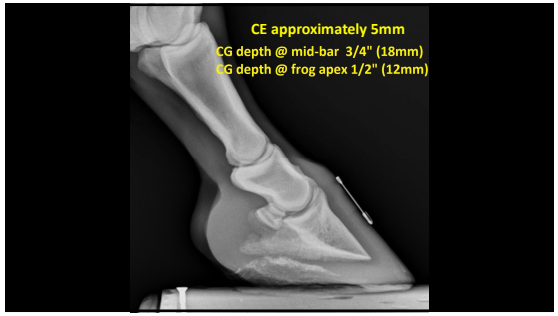

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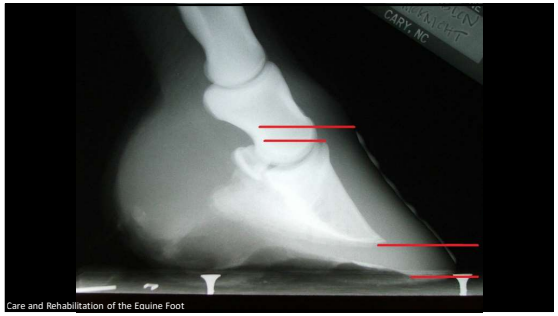

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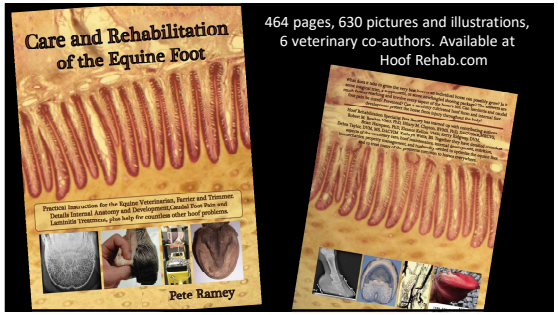

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